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OCT 02 2002

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TECH CENTER 1600/2900

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Long, Fan
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<120> A NOVEL FUNGAL MULTISUBUNIT PROTEIN
COMPLEX CRITICAL FOR EXPRESSION OF FUNGAL PROTEINS

<130> 0342/1D516US2

<140> US 09/601,965

<141> 2000-10-20

<150> PCT/US99/02940

<151> 1999-02-08

<150> 60/074,100

<151> 1998-02-09

<160> 32

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 4116

<212> DNA

<213> C. albicans

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<211> 1160

<212> PRT

<213> C. albicans

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Ser	Asn	Asp	Phe	Asp	Ser	Asn	Ile	Ser	His	His	Asp	His	Met	Gly	Gly
65					70				75					80	
Asp	Ser	Asn	Gly	Ile	Ile	Asp	Asp	Asn	His	His	Ser	Ser	Val	Asn	Asp
			85					90					95		
His	Asp	Gly	Leu	Phe	Asn	Asn	Leu	Gly	Asn	Gly	Asn	His	Leu	Leu	Asp
			100					105					110		
Asp	Asp	Asn	Asp	Gly	Leu	Asn	Asp	Leu	Gly	Glu	Leu	Phe	Asp	Asp	Gln
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Glu	Asn	Lys	Arg	Gln	Leu	Lys	Arg	Gln	Lys	Leu	Gln	Lys	Ile	Val	Lys
				165					170					175	
His	Leu	Glu	Lys	Glu	Gln	Ile	Lys	Arg	Asn	Ile	Lys	Tyr	Tyr	Phe	Pro
			180				185						190		
Thr	Tyr	Ser	Arg	His	Arg	Pro	Phe	Asn	Phe	His	Lys	Phe	Phe	Ser	Pro
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Ser	Pro	Gln	Tyr	Tyr	Arg	Tyr	Gln	Arg	Pro	Ala	Ile	Ala	Leu	Ser	Lys
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Asn	Ile	Lys	Pro	Leu	Ile	Pro	Thr	Lys	Val	Asn	Leu	Glu	Ile	Glu	Val
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Asp	Gln	Lys	Lys	Ile	Phe	Lys	Leu	Arg	Ser	Ala	Asp	Thr	Ala	Ser	Leu
				245					250					255	
Ser	His	Glu	Asp	Lys	Asn	Val	Thr	Asn	Ile	Thr	Gln	Asp	Asp	Leu	Asp
			260					265					270		
Phe	Ile	Lys	Asn	Leu	Glu	Ser	Lys	Arg	Ser	Ser	Ile	Asp	Ser	Phe	Ile
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Lys	Glu	Ile	Asp	Tyr	Val	Lys	Arg	Asp	Trp	Thr	Asn	Cys	Asp	Lys	Phe
	290					295					300				
Asp	His	Tyr	Ser	Lys	Asp	Leu	Val	Leu	Ser	Thr	Thr	Asp	Trp	Asp	Asp
305					310					315					320
Asp	Ala	Ile	Ile	Asn	Ala	Gly	Asp	Asn	Glu	Tyr	Ser	Ile	Val	Lys	Pro
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Ile	Asn	Glu	Leu	Leu	Leu	Asn	Asn	Pro	Leu	Asp	Asn	Ser	Lys	Gln	Asn
			340					345						350	
Arg	Gln	Lys	Ile	Glu	Asn	Asp	Asn	Thr	Thr	Asn	Asn	Tyr	Asn	Gln	Asn
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Asn	Ser	Asn	Val	Gln	Asp	Glu	Glu	Glu	Asp	Asp	Asp	Ile	Phe	Asn	Gly
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Gln	Ile	Asn	Leu	Asp	Lys	Leu	Lys	Leu	Asp	Met	Asn	Asp	Pro	Asn	Leu
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Leu	Phe	Val	Pro	Ser	Lys	Lys	Val	Asp	Ala	Thr	Lys	Ser	Val	Val	Pro
				405					410					415	
Ser	Thr	Asp	Lys	Leu	Leu	Glu	Leu	Lys	Phe	Asn	Ile	Ser	Asn	Asp	Gln
			420					425					430		
Glu	Tyr	Glu	Leu	Leu	Arg	Lys	Asn	Tyr	Asn	Thr	Lys	Gln	Arg	Ser	Gln
		435					440					445			
Leu	Ser	Asn	Leu	Asn	Ile	Glu	His	Ser	Val	Pro	Ala	Leu	Arg	Leu	Gln
	450					455					460				
Thr	Pro	Tyr	Tyr	Lys	Val	Lys	Leu	Ser	Thr	Asp	Glu	Thr	Arg	Ser	Phe
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His	Arg	Pro	Val	Phe	Asn	Val	Arg	Pro	Gly	Thr	Leu	Val	Ser	Phe	Ser
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Lys	Leu	Lys	Leu	Arg	Lys	Arg	Lys	Lys	Asp	Lys	Gly	Lys	Ser	Leu	Gln
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Asn	Asp	Thr	Ser	Arg	Pro	Lys	Ala	Gln	Ile	Gly	Glu	Thr	His	Ile	Leu
				565					570					575	
Gly	Val	Glu	Asp	Arg	Ser	Pro	Phe	Trp	Asn	Phe	Gly	Glu	Val	Ala	Pro
			580					585					590		
Gly	Asp	Phe	Val	Pro	Thr	Leu	Tyr	Asn	Asn	Met	Val	Arg	Ala	Pro	Ile
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Gly Ala Gly Ser His Gln Lys Phe Tyr Leu Arg Gly Ile Asn Phe Asn				
625		630		640
Phe Ala Val Gly Asn Thr Phe Pro Val Glu Val Pro Ala Pro His Ser				
	645		650	655
Arg Lys Val Thr Asn Ile Ser Lys Asn Arg Leu Lys Met Val Val Phe				
	660		665	670
Arg Val Met Asn Ser Leu Gly Val Pro Arg Ile Ser Val Lys Asp Val				
	675		680	685
Ser Lys His Phe Pro Glu His Ser Asp Met Gln Asn Arg Gln Arg Leu				
	690		695	700
Lys Glu Phe Met Glu Tyr Gln Arg Gln Gly Glu Asp Gln Gly Tyr Trp				
705		710		720
Lys Val Arg Gly Leu Asn Asp Val Ile Pro Gly Glu Glu Glu Ile Arg				
	725		730	735
Thr Met Ile Thr Pro Glu Asp Ser Ser Leu Met Asp Thr Met Gln Phe				
	740		745	750
Gly Gln Gln Val Leu Asp Asp Asn Met Val Leu Phe Gly Glu Gln Ser				
	755		760	765
Arg Gln Glu Ser Ser Arg Ser Arg Lys Gly Asp Lys Arg Glu Asp Ser				
	770		775	780
Ile Ala Asp Asp Ala Glu Asn Gly Asp Asp Ile Asn Lys Asp Lys Glu				
785		790		800
Lys Glu Val Glu Lys Glu Lys Glu Gln Glu Arg Glu Glu Lys Gly				
	805		810	815
Lys Asp Lys Glu Lys Asp Lys Asp Lys Glu Lys Asp Lys Thr Glu Lys				
	820		825	830
Glu Lys Ser Lys Lys Ser Lys Glu Gln Asp Thr Glu Ile Asp Val Glu				
	835		840	845
Glu Glu Leu Ala Pro Trp Asn Leu Ser Arg Asn Phe Val Ile Ala Asn				
	850		855	860
Gln Thr Lys Thr Met Leu Gln Leu Asn Gly Glu Gly Asp Pro Thr Gly				
865		870		880
Ile Gly Leu Gly Phe Ser Met Leu Arg Ala Thr Gln Lys Asn Pro Phe				
	885		890	895
Lys Pro Leu Phe Thr Pro Pro Pro Glu Asn Val Pro Lys Ser Asn Ala				
	900		905	910
Ala Ala His Asn Gln Lys Leu Tyr Glu Gln Glu Ile Lys Arg Ile Trp				
	915		920	925
Tyr Ser Gln Arg Ser Ser Leu Val Asp His Gly Glu Gly Thr Glu Ser				
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Lys Leu Gln Gln Ile Tyr Asn Glu Tyr Pro Pro Ala Asp His Glu Leu				
945		950		960
Tyr Leu Lys Asn Lys Leu Glu Gln Asp Gln Gln Val Gln Gln Gln Gln				
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Gln Asp Pro Ser Leu Gln Ala Asp Gln Gln Gln Gln Gln Gln Gln				
	980		985	990
Gln Asn Arg Val Leu Arg Ile Thr Arg Arg Val Arg Asp Glu Asn Gly				
	995		1000	1005
Ile Val His Arg Lys Val Glu Phe Ile His Asp Pro Arg Leu Ile Arg				
	1010		1015	1020
Ala Tyr Val Lys Arg Lys Lys Gln Ile Glu Asp Glu Leu Leu Lys Asn				
1025		1030		1040
Ala Asp Val Asp Glu Ile Leu Pro Thr Asn Asp Lys Glu Leu Asn Lys				
	1045		1050	1055
Ile Arg Arg Lys Ala Leu Glu Glu Lys Leu Ala Asn Leu Glu Lys Arg				
	1060		1065	1070
Ala Lys Gln Ser Arg Ala Lys Lys Pro Pro Lys Asp Leu Ile His Ala				
	1075		1080	1085
Ala Ala Ala Gly Ala Thr Ile Ile Asp Ala Asn Thr Val Met Leu				
1090		1095		1100

Pro Asp Gly Ser Tyr Val Ile Gly Gly Lys Gly Ile Gly Lys Gly Lys
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 Ser Arg Thr Arg Arg Cys Lys Asn Cys Gly Ala Tyr Gly His Ile Arg
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 Thr Asn Ala Lys Cys Pro Leu Tyr Lys Lys Met Val Leu Gly Ile Asp
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 35 40 45
 Glu His Leu Pro Asp Ala Val Asp Phe Glu Asp Glu Asp Glu Leu Ala
 50 55 60
 Asp Asp Asp Asp Asp Leu Pro Glu Glu Ser Asp Ala Asn Leu His Pro
 65 70 75 80
 Ala Met Met Thr Met Gly Ala Tyr Asp Asp Val Asn Glu Asn Gly Ala
 85 90 95
 Val Leu Gly Ile Asp Ser Asn Ser Leu Asn Met Gln Leu Pro Glu Ile
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 Asn Gly Asp Leu Ser Gln Gln Phe Ile Leu Glu Asp Asp Gly Gly Thr
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 Pro Ala Thr Ser Asn Ala Leu Phe Met Gly Met Asp Ala Asn Glu Ile
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 His Leu Ala Thr Glu Thr Gly Val Leu Asp Gly Ser Gly Ala Asn Glu
 145 150 155 160
 Ile Gly His Ser Gln Leu Ser Ile Gly Gly Val Asn Gly Asn Asp Met
 165 170 175
 Ser Ile Asn Gly Gly Phe Ile Met Glu Pro Asp Met Ser Asp Gly Lys
 180 185 190
 His Lys Lys Ala Thr Lys Leu Asp Leu Ile Asn His Glu Lys Tyr Leu
 195 200 205
 Leu Lys Lys Tyr Phe Pro Asp Phe Glu Lys Gly Lys Ile Leu Lys Trp
 210 215 220
 Asn Lys Leu Ile Tyr Arg Arg Ser Val Pro Tyr His Trp His Ser Glu
 225 230 235 240
 Ile Ser Arg Val Lys Lys Pro Phe Met Pro Leu Asn Leu Lys Phe Lys
 245 250 255
 Val Gln Gln Asp Asp Lys Arg Leu Phe Asn Ser Arg Thr Ile Ser Tyr
 260 265 270
 Val Ala Pro Ile Tyr Gln Gly Lys Asn Asn Leu Leu Gln Ser Asn Ser
 275 280 285
 Ser Ala Ser Arg Arg Gly Leu Ile His Val Ser Ile Asp Glu Leu Phe
 290 295 300
 Pro Ile Lys Glu Gln Gln Lys Lys Arg Lys Ile Ile His Asp Glu Lys
 305 310 315 320
 Thr Ile Ser Glu Asp Leu Leu Ile Ala Thr Asp Asp Trp Asp Gln Glu
 325 330 335
 Lys Ile Ile Asn Gln Gly Thr Ser Ser Thr Ala Thr Leu Ala Asp Ser
 340 345 350
 Ser Met Thr Pro Asn Leu Lys Phe Ser Gly Gly Tyr Lys Leu Lys Ser
 355 360 365

Leu	Ile	Glu	Asp	Val	Ala	Glu	Asp	Trp	Gln	Trp	Asp	Glu	Asp	Met	Ile	370	375	380
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Asp	Glu	Lys	Leu	Leu	Met	Ile	Glu	Lys	Thr	Asn	Asn	Leu	Ala	Gln		405	410	415
Gln	Lys	Gln	Gln	Leu	Asp	Ser	Ser	Asn	Leu	Ile	Leu	Pro	Leu	Asn	Glu	420	425	430
Thr	Ile	Leu	Gln	Gln	Lys	Phe	Asn	Leu	Ser	Asn	Asp	Asp	Lys	Tyr	Gln	435	440	445
Ile	Leu	Lys	Lys	Thr	His	Gln	Thr	Lys	Val	Arg	Ser	Thr	Ile	Ser	Asn	450	455	460
Leu	Asn	Ile	Gln	His	Ser	Gln	Pro	Ala	Ile	Asn	Leu	Gln	Ser	Pro	Phe	465	470	475
Tyr	Lys	Val	Ala	Val	Pro	Arg	Tyr	Gln	Leu	Arg	His	Phe	His	Arg	Glu	485	490	495
Asn	Phe	Gly	Ser	His	Ile	Arg	Pro	Gly	Thr	Lys	Ile	Val	Phe	Ser	Lys	500	505	510
Leu	Lys	Ala	Arg	Lys	Arg	Lys	Arg	Asp	Lys	Gly	Lys	Asp	Val	Lys	Glu	515	520	525
Ser	Phe	Ser	Thr	Ser	Gln	Asp	Leu	Thr	Ile	Gly	Asp	Thr	Ala	Pro	Val	530	535	540
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Gly	Met	Ala	Asn	Lys	Leu	Ile	Asn	Tyr	Tyr	Arg	Lys	Ala	Asn	Glu	Gln	565	570	575
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Val	Gln	Asp	Lys	Ser	Pro	Phe	Trp	Asn	Phe	Gly	Phe	Val	Glu	Pro	Gly	595	600	605
His	Ile	Val	Pro	Thr	Leu	Tyr	Asn	Asn	Met	Ile	Arg	Ala	Pro	Val	Phe	610	615	620
Lys	His	Asp	Ile	Ser	Gly	Thr	Asp	Phe	Leu	Leu	Thr	Lys	Ser	Ser	Gly	625	630	635
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Thr	Val	Gly	Gln	Thr	Phe	Pro	Val	Glu	Glu	Ile	Pro	Gly	Pro	Asn	Ser	660	665	670
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Arg	Ile	Leu	Asn	His	Asn	His	Ser	Lys	Ala	Ile	Ser	Ile	Asp	Pro	Ile	690	695	700
Ala	Lys	His	Phe	Pro	Asp	Gln	Asp	Tyr	Gly	Gln	Asn	Arg	Gln	Lys	Val	705	710	715
Lys	Glu	Phe	Met	Lys	Tyr	Gln	Arg	Asp	Gly	Pro	Glu	Lys	Gly	Leu	Trp	725	730	735
Arg	Leu	Lys	Asp	Asp	Glu	Lys	Leu	Leu	Asp	Asn	Glu	Ala	Val	Lys	Ser	740	745	750
Leu	Ile	Thr	Pro	Glu	Gln	Ile	Ser	Gln	Val	Glu	Ser	Met	Ser	Gln	Gly	755	760	765
Leu	Gln	Phe	Gln	Glu	Asp	Asn	Glu	Ala	Tyr	Asn	Phe	Asp	Ser	Lys	Leu	770	775	780
Lys	Ser	Leu	Glu	Glu	Asn	Leu	Leu	Pro	Trp	Asn	Ile	Thr	Lys	Asn	Phe	785	790	795
Ile	Asn	Ser	Thr	Gln	Met	Arg	Ala	Met	Ile	Gln	Ile	His	Gly	Val	Gly	805	810	815
Asp	Pro	Thr	Gly	Cys	Gly	Glu	Gly	Phe	Ser	Phe	Leu	Lys	Thr	Ser	Met	820	825	830
Lys	Gly	Gly	Phe	Val	Lys	Ser	Gly	Ser	Pro	Ser	Ser	Asn	Asn	Asn	Ser	835	840	845
Ser	Asn	Lys	Lys	Gly	Thr	Asn	Thr	His	Ser	Tyr	Asn	Val	Ala	Gln	Gln			

850 855 860
 Gln Lys Ala Tyr Asp Glu Glu Ile Ala Lys Thr Trp Tyr Thr His Thr
 865 870 875 880
 Lys Ser Leu Ser Ile Ser Asn Pro Phe Glu Glu Met Thr Asn Pro Asp
 885 890 895
 Glu Ile Asn Gln Thr Asn Lys His Val Lys Thr Asp Arg Asp Asp Lys
 900 905 910
 Lys Ile Leu Lys Ile Val Arg Lys Lys Arg Asp Glu Asn Gly Ile Ile
 915 920 925
 Gln Arg Gln Thr Ile Phe Ile Arg Asp Pro Arg Val Ile Gln Gly Tyr
 930 935 940
 Ile Lys Ile Lys Glu Gln Asp Lys Glu Asp Val Asn Lys Leu Leu Glu
 945 950 955
 Glu Asp Thr Ser Lys Ile Asn Asn Leu Glu Glu Leu Glu Lys Gln Lys
 965 970 975
 Lys Leu Leu Gln Leu Glu Leu Ala Asn Leu Glu Lys Ser Gln Gln Arg
 980 985 990
 Arg Ala Ala Arg Gln Asn Ser Lys Arg Asn Gly Gly Ala Thr Arg Thr
 995 1000 1005
 Glu Asn Ser Val Asp Asn Gly Ser Asp Leu Ala Gly Val Thr Asp Gly
 1010 1015 1020
 Lys Ala Ala Arg Asn Lys Gly Lys Asn Thr Thr Arg Arg Cys Ala Thr
 1025 1030 1035 1040
 Cys Gly Gln Ile Gly His Ile Arg Thr Asn Lys Ser Cys Pro Met Tyr
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 Ser Ser Lys Asp Asn Pro Ala Ser Pro Lys
 1060 1065

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 <212> PRT
 <213> S. pombe

<400> 4
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 Tyr Asn Asp Gly Asn Asp Leu Thr Asp Leu Phe Lys Gln Asn Gly Thr
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 Asp Met Ser Val Ile Asn Ser Leu Leu Gly Asp Thr Asn Asn Pro Gly
 35 40 45
 Met Asn Glu Ser Pro Lys Ile Leu Asp Ser Ser Phe Glu Asn Ser Asn
 50 55 60
 Pro Gln Asp Gly Pro Asn Tyr Glu Asp Phe Asp Phe Met Gly Ser Ile
 65 70 75 80
 His Lys Glu Phe Gly Asn Asn Ile Asn Glu Met Asp Asp Met Glu Asp
 85 90 95
 Val Ser Asp Asp Asn Leu Pro Glu Glu Glu Gln Ala Val Asn Tyr Thr
 100 105 110
 Gly Asp Lys Asp Asp Glu Asp Phe Gly Lys Leu Leu Ala Lys Glu Met
 115 120 125
 Gly Glu Glu Ala Ala Gly Gln Val Leu Ser Gly Val Gly Phe Ser Ile
 130 135 140
 Pro Ser Gly Leu Val Pro Ser Glu Pro Ser Lys Thr Val Ser Ser
 145 150 155 160
 Thr Thr Glu Glu Leu Gln Asn Glu Ala Gln Ile Arg Glu Ser Ile Val
 165 170 175
 Lys Thr Phe Phe Pro Thr Phe Glu Arg Gly Val Leu Leu Asn Phe Ser
 180 185 190
 Glu Leu Phe Lys Pro Lys Pro Val Lys Leu Ala Pro Pro Lys Lys Lys
 195 200 205
 Thr Pro Lys Val Cys Val Pro Gly Arg Leu Thr Leu Glu Val Asp Thr

210	215	220
Asp Tyr Ala Ile Ile Phe Asn Ser Lys Lys Ser Leu Pro Leu Lys Arg		
225	230	235
Asn Val Val Ser Pro Ile Ser Thr His Thr Lys Lys Arg Arg Arg Thr		
	245	250
Ala Asn Thr Ser Gln Arg Asn Asp Gly Leu Asp Leu Asn Thr Val Phe		
	260	265
Thr Thr Asn Asp Trp Glu Lys Asn Ile Ile Tyr Asp Glu Ser Asp Val		
	275	280
Asn Lys Thr Asn Gln Ser Ser Phe Phe Ile Asp Lys Ser Leu Val Asp		
	290	295
Ile Asp Phe Ala Phe Asp Glu Asn Ile Phe Asp Gly Asp Thr Gly Thr		
305	310	315
Ser Lys Val Val Leu Asn Leu Asn Asp Pro Lys Leu Leu Leu Gln Pro		
	325	330
Gln Leu Pro Lys Lys Glu Asp Ser Gln Arg Ser Phe Ala Asp Thr His		
	340	345
Gln Arg Asn Ser Leu Ala Trp Lys Phe Asn Ile Ser Asn Asp Pro Ala		
	355	360
Tyr Glu Met Leu Lys Gln Asn His Gln Ser Lys Val Arg Asn Thr Leu		
	370	375
Ser Gln Leu Ala Ile Glu His Ala Ala Phe Ala Glu Lys Leu Thr Phe		
385	390	395
Pro Tyr Tyr Lys Thr Arg Leu Ser Lys Arg Ala Val Arg Ser Tyr His		
	405	410
Arg Pro Thr Met Ser Phe Lys Pro Asn Ala Ala Ile Val Phe Ser Pro		
	420	425
Leu Ile Val Arg Lys Arg Ser Lys Asp Lys His Lys Ser Glu Arg Glu		
	435	440
Leu Ile Pro Thr Thr Lys Glu Ile Thr Met Gly Asp Thr Thr His Ala		
	450	455
Ile Leu Val Glu Phe Ser Glu Glu His Pro Ala Val Leu Ser Asn Ala		
465	470	475
Gly Met Ala Ser Arg Ile Val Asn Tyr Tyr Arg Lys Lys Asn Glu Gln		
	485	490
Asp Glu Ser Arg Pro Lys Leu Glu Val Gly Glu Ser His Val Leu Asp		
	500	505
Val Gln Asp Arg Ser Pro Phe Trp Asn Phe Gly Ser Val Glu Pro Gly		
	515	520
Glu Ile Thr Pro Thr Leu Tyr Asn Lys Met Ile Arg Ala Pro Leu Phe		
	530	535
Lys His Glu Val Pro Pro Thr Asp Phe Ile Leu Ile Arg Asn Ser Ser		
545	550	555
Ser Tyr Gly Ser Lys Tyr Tyr Leu Lys Asn Ile Asn His Met Phe Val		
	565	570
Ser Gly Gln Thr Phe Pro Val Thr Asp Val Pro Gly Pro His Ser Arg		
	580	585
Lys Val Thr Thr Ala Ser Lys Asn Arg Leu Lys Met Leu Val Phe Arg		
	595	600
Leu Ile Arg Arg Ser Pro Asn Gly Gly Leu Phe Ile Arg Gln Leu Ser		
	610	615
Lys His Phe Ser Asp Gln Asn Glu Met Gln Ile Arg Gln Arg Leu Lys		
625	630	635
Glu Phe Met Glu Tyr Lys Lys Lys Gly Asp Gly Pro Gly Tyr Trp Lys		
	645	650
Leu Lys Ser Asn Glu Val Val Pro Asp Glu Ala Gly Thr Arg Ser Met		
	660	665
Val Ser Pro Glu Thr Val Cys Leu Leu Glu Ser Met Gln Val Gly Val		
	675	680
Arg Gln Leu Glu Asp Ala Gly Tyr Gly Lys Thr Met Asp Glu Ile Asn		
	690	695
		700

Asp	Asp	Glu	Asp	Glu	Glu	Gln	Pro	Ala	Glu	Gln	Leu	Leu	Ala	Pro	Trp
705					710					715					720
Ile	Thr	Thr	Arg	Asn	Phe	Ile	Asn	Ala	Thr	Gln	Gly	Lys	Ala	Met	Leu
				725					730					735	
Thr	Leu	Phe	Gly	Glu	Gly	Asp	Pro	Thr	Gly	Ile	Gly	Glu	Gly	Tyr	Ser
			740					745					750		
Phe	Ile	Arg	Thr	Ser	Met	Lys	Gly	Gly	Phe	Lys	Pro	Ala	Gly	Glu	Thr
		755					760					765			
Ala	Asp	Asp	Lys	Pro	Glu	Pro	Gln	Thr	Lys	Asn	Ala	His	Ala	Tyr	Asn
	770					775					780				
Val	Ala	Lys	Gln	Gln	Arg	Ala	Tyr	Glu	Glu	Glu	Ile	Asn	Arg	Ile	Trp
785					790					795					800
Asn	Ala	Gln	Lys	Arg	Gly	Leu	Ser	Ile	Asn	Asn	Leu	Glu	Glu	Leu	Ala
			805						810					815	
Lys	Lys	Tyr	Gly	Ile	Asn	Ser	Ile	His	Asp	Asp	Tyr	Val	Glu	Ser	Asn
			820					825					830		
Glu	Glu	Thr	Thr	Arg	Glu	Glu	Thr	Pro	Ser	Ser	Asp	Lys	Val	Leu	Arg
		835					840					845			
Ile	Val	Arg	Leu	Tyr	Arg	Asp	Lys	Asn	Gly	Asn	Leu	Glu	Arg	Lys	Gln
	850					855					860				
Glu	Thr	Ile	His	Asp	Pro	Ile	Val	Ile	His	Ala	Tyr	Leu	Lys	Lys	Arg
865				870					875						880
Arg	Glu	Ile	Asp	Glu	Gln	Ser	Thr	Ala	Leu	Asp	Ala	Val	Val	Pro	Thr
			885					890						895	
Gly	Asp	Glu	Ala	Ile	Asp	Arg	Arg	Asn	Arg	Arg	Arg	Leu	Glu	Gln	Glu
		900						905					910		
Leu	Ala	Lys	Ser	Gln	Lys	Asn	Trp	Glu	Arg	Arg	Arg	Ala	Arg	His	Ala
		915					920					925			
Ala	Lys	Glu	Gly	Ile	Asn	Leu	Asn	Gly	Glu	Gly	Arg	Lys	Pro	Thr	Thr
	930					935					940				
Arg	Lys	Cys	Ser	Asn	Cys	Gly	Gln	Val	Gly	His	Met	Lys	Thr	Asn	Lys
945				950						955					960
Ile	Cys	Pro	Leu	Phe	Gly	Arg	Pro	Glu	Gly	Gly	Leu	Ala	Thr	Met	Leu
			965					970						975	

Asp Lys Asn

<210> 5
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 <212> PRT
 <213> Drosophila

<400> 5

Met	Glu	Ser	Asp	Asn	Ser	Asp	Asp	Glu	Gly	Ser	Ile	Gly	Asn	Gly	Leu
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Asp	Leu	Thr	Gly	Ile	Leu	Phe	Gly	Asn	Ile	Asp	Ser	Glu	Gly	Arg	Leu
			20					25					30		
Leu	Gln	Asp	Asp	Asp	Gly	Glu	Gly	Arg	Gly	Gly	Thr	Gly	Phe	Asp	Ala
		35					40					45			
Glu	Leu	Arg	Glu	Asn	Ile	Gly	Ser	Leu	Ser	Lys	Leu	Gly	Leu	Asp	Ser
	50				55						60				
Met	Leu	Leu	Glu	Val	Ile	Asp	Leu	Lys	Glu	Ala	Glu	Pro	Pro	Ser	Asp
65				70					75					80	
Asp	Glu	Glu	Glu	Glu	Asp	Ala	Arg	Pro	Ser	Ala	Val	Ser	Ala	Ser	Gly
			85					90						95	
Gly	Met	Ser	Ala	Phe	Asp	Ala	Leu	Lys	Ala	Gly	Val	Lys	Arg	Glu	Glu
			100					105					110		
Arg	Glu	Asp	Gly	Ala	Val	Lys	Ala	Gln	Asp	Asp	Ala	Ile	Asp	Tyr	Ser
		115					120					125			
Asp	Ile	Thr	Glu	Leu	Ser	Glu	Asp	Cys	Pro	Arg	Thr	Pro	Pro	Glu	Glu
	130						135				140				

Thr	Ser	Thr	Tyr	Asp	Asp	Leu	Glu	Asp	Ala	Ile	Pro	Ala	Ser	Lys	Val
145				150						155					160
Glu	Ala	Lys	Leu	Thr	Lys	Asp	Asp	Lys	Glu	Leu	Met	Pro	Pro	Pro	Ser
			165						170						175
Ala	Pro	Met	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ile	Glu	Glu	Pro	Ala	Lys
			180					185					190		
Ser	Asn	Asp	Ala	Ser	Ser	Pro	Ser	Asp	Asp	Ser	Lys	Ser	Thr	Asp	Ser
	195						200					205			
Lys	Asp	Ala	Asp	Arg	Lys	Leu	Asp	Thr	Pro	Leu	Ala	Asp	Ile	Leu	Pro
	210					215					220				
Ser	Lys	Tyr	Gln	Asn	Val	Asp	Val	Arg	Glu	Leu	Phe	Pro	Asp	Phe	Arg
225				230						235					240
Pro	Gln	Lys	Val	Leu	Arg	Phe	Ser	Arg	Leu	Phe	Gly	Pro	Gly	Lys	Pro
			245						250					255	
Thr	Ser	Leu	Pro	Gln	Ile	Trp	Arg	His	Val	Arg	Lys	Arg	Arg	Arg	Lys
		260					265						270		
Arg	Asn	Gln	Ser	Arg	Asp	Gln	Lys	Thr	Thr	Asn	Thr	Gly	Gly	Ser	Asp
	275						280					285			
Ser	Pro	Ser	Asp	Thr	Glu	Glu	Pro	Arg	Lys	Arg	Gly	Phe	Ser	Leu	His
	290					295					300				
Tyr	Ala	Ala	Glu	Pro	Thr	Pro	Ala	Glu	Cys	Met	Ser	Asp	Asp	Glu	Asp
305				310						315					320
Lys	Leu	Leu	Gly	Asp	Phe	Asn	Ser	Glu	Asp	Val	Arg	Pro	Glu	Gly	Pro
			325						330					335	
Asp	Asn	Gly	Glu	Asn	Ser	Asp	Gln	Lys	Pro	Lys	Val	Ala	Asp	Trp	Arg
			340					345					350		
Phe	Gly	Pro	Ala	Gln	Ile	Trp	Tyr	Asp	Ile	Leu	Glu	Val	Pro	Asp	Ser
	355					360						365			
Gly	Glu	Gly	Phe	Asn	Tyr	Gly	Phe	Lys	Thr	Lys	Ala	Ala	Ser	Thr	Ser
	370					375					380				
Ser	Gln	Gln	Gln	Leu	Lys	Asp	Glu	Arg	Arg	Val	Lys	Ser	Pro	Glu	Asp
385				390						395					400
Asp	Val	Glu	Asp	Pro	Ser	Ile	Ala	Asp	Asp	Ala	Phe	Leu	Met	Val	Ser
			405					410						415	
Gln	Leu	His	Trp	Glu	Asp	Asp	Val	Val	Trp	Asp	Gly	Asn	Asp	Ile	Lys
		420					425						430		
Ala	Lys	Val	Leu	Gln	Lys	Leu	Asn	Ser	Lys	Thr	Asn	Ala	Ala	Gly	Trp
	435						440					445			
Leu	Pro	Ser	Ser	Gly	Ser	Arg	Thr	Ala	Gly	Ala	Phe	Ser	Gln	Pro	Gly
	450					455					460				
Lys	Pro	Ser	Met	Pro	Val	Gly	Ser	Gly	Ser	Ser	Lys	Gln	Gly	Ser	Gly
465				470						475					480
Ala	Ser	Ser	Lys	Lys	Ala	Gln	Gln	Asn	Ala	Gln	Ala	Lys	Pro	Ala	Glu
			485					490						495	
Ala	Pro	Asp	Asp	Thr	Trp	Tyr	Ser	Leu	Phe	Pro	Val	Glu	Asn	Glu	Glu
		500						505					510		
Leu	Ile	Tyr	Tyr	Lys	Trp	Glu	Asp	Glu	Val	Ile	Trp	Asp	Ala	Gln	Gln
	515					520						525			
Val	Ser	Lys	Val	Pro	Lys	Pro	Lys	Val	Leu	Thr	Leu	Asp	Pro	Asn	Asp
	530					535					540				
Glu	Asn	Ile	Ile	Leu	Gly	Ile	Pro	Asp	Asp	Ile	Asp	Pro	Ser	Lys	Ile
545				550						555					560
Asn	Lys	Ser	Thr	Gly	Pro	Pro	Pro	Lys	Ile	Lys	Ile	Pro	His	Pro	His
			565					570						575	
Val	Lys	Lys	Ser	Lys	Ile	Leu	Leu	Gly	Lys	Ala	Gly	Val	Ile	Asn	Val
		580						585					590		
Leu	Ala	Glu	Asp	Thr	Pro	Pro	Pro	Pro	Pro	Lys	Ser	Pro	Asp	Arg	Asp
	595					600						605			
Pro	Phe	Asn	Ile	Ser	Asn	Asp	Thr	Tyr	Tyr	Thr	Pro	Lys	Thr	Glu	Pro
	610				615						620				
Thr	Leu	Arg	Leu	Lys	Val	Gly	Gly	Asn	Leu	Ile	Gln	His	Ser	Thr	Pro

625					630					635				640
Val	Val	Glu	Leu	Arg	Ala	Pro	Phe	Val	Pro	Thr	His	Met	Gly	Pro
				645					650					655
Asn	Val	Arg	Ala	Phe	His	Arg	Pro	Pro	Leu	Lys	Lys	Tyr	Ser	His
			660					665					670	
Pro	Met	Ala	Gln	Ser	Ile	Pro	His	Pro	Val	Phe	Pro	Leu	Leu	Lys
		675					680					685		
Ile	Ala	Lys	Lys	Ala	Lys	Gln	Arg	Glu	Val	Glu	Arg	Ile	Ala	Ser
	690					695				700				
Gly	Gly	Asp	Val	Phe	Phe	Met	Arg	Asn	Pro	Glu	Asp	Leu	Ser	Gly
705					710					715				720
Asp	Gly	Asp	Ile	Val	Leu	Ala	Glu	Phe	Cys	Glu	Glu	His	Pro	Pro
			725						730					735
Ile	Asn	Gln	Val	Gly	Met	Cys	Ser	Lys	Ile	Lys	Asn	Tyr	Tyr	Lys
			740					745					750	
Lys	Ala	Glu	Lys	Asp	Ser	Gly	Pro	Gln	Asp	Tyr	Val	Tyr	Gly	Glu
	755					760						765		
Ala	Phe	Ala	His	Thr	Ser	Pro	Phe	Leu	Gly	Ile	Leu	His	Pro	Gly
	770					775					780			
Cys	Ile	Gln	Ala	Ile	Glu	Asn	Asn	Met	Tyr	Arg	Ala	Pro	Ile	Tyr
785					790					795				800
His	Lys	Met	Ala	His	Asn	Asp	Phe	Leu	Val	Ile	Arg	Thr	Arg	Asn
			805						810					815
Tyr	Trp	Ile	Arg	Ser	Val	Asn	Ser	Ile	Tyr	Thr	Val	Gly	Gln	Glu
		820						825				830		
Pro	Leu	Tyr	Glu	Val	Pro	Gly	Pro	Asn	Ser	Lys	Arg	Ala	Asn	Asn
	835					840						845		
Thr	Arg	Asp	Phe	Leu	Gln	Val	Phe	Ile	Tyr	Arg	Leu	Phe	Trp	Lys
	850				855						860			
Arg	Asp	Asn	Pro	Arg	Arg	Ile	Arg	Met	Asp	Asp	Ile	Lys	Gln	Ala
865					870					875				880
Pro	Ala	His	Ser	Glu	Ser	Ser	Ile	Arg	Lys	Arg	Leu	Lys	Gln	Cys
			885						890					895
Asp	Phe	Lys	Arg	Thr	Gly	Met	Asp	Ser	Asn	Trp	Trp	Val	Ile	Lys
		900					905					910		
Glu	Phe	Arg	Leu	Pro	Ser	Glu	Glu	Glu	Ile	Arg	Ala	Met	Val	Ser
	915					920						925		
Glu	Gln	Cys	Cys	Ala	Tyr	Phe	Ser	Met	Ile	Ala	Ala	Glu	Gln	Arg
	930					935					940			
Lys	Asp	Ala	Gly	Tyr	Gly	Glu	Lys	Phe	Leu	Phe	Ala	Pro	Gln	Glu
945					950					955				960
Asp	Asp	Glu	Glu	Ala	Gln	Leu	Lys	Leu	Asp	Asp	Glu	Val	Lys	Val
			965						970					975
Pro	Trp	Asn	Thr	Thr	Arg	Ala	Tyr	Ile	Gln	Ala	Met	Arg	Gly	Lys
		980						985					990	
Leu	Leu	Gln	Leu	Ser	Gly	Pro	Ala	Asp	Pro	Thr	Gly	Cys	Gly	Glu
		995				1000						1005		
Phe	Ser	Tyr	Val	Arg	Val	Pro	Asn	Lys	Pro	Thr	Gln	Thr	Lys	Glu
	1010					1015					1020			
Gln	Glu	Ser	Gln	Pro	Lys	Arg	Ser	Val	Thr	Gly	Thr	Asp	Ala	Asp
1025					1030					1035				1040
Arg	Arg	Leu	Pro	Leu	Gln	Arg	Ala	Lys	Glu	Leu	Leu	Arg	Gln	Phe
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Val	Pro	Glu	Glu	Glu	Ile	Lys	Lys	Leu	Ser	Arg	Trp	Glu	Val	Ile
		1060						1065				1070		
Val	Val	Arg	Thr	Leu	Ser	Thr	Glu	Lys	Ala	Lys	Ala	Gly	Glu	Glu
	1075						1080				1085			
Met	Asp	Lys	Phe	Ser	Arg	Gly	Asn	Arg	Phe	Ser	Ile	Ala	Glu	His
	1090					1095					1100			
Glu	Arg	Tyr	Lys	Glu	Glu	Cys	Gln	Arg	Ile	Phe	Asp	Leu	Gln	Asn
1105					1110					1115				1120

Val	Leu	Ala	Ser	Ser	Glu	Val	Leu	Ser	Thr	Asp	Glu	Ala	Glu	Ser	Ser		
				1125					1130					1135			
Ala	Ser	Glu	Glu	Ser	Asp	Leu	Glu	Glu	Leu	Gly	Lys	Asn	Leu	Glu	Asn		
			1140					1145					1150				
Met	Leu	Ser	Asn	Lys	Lys	Thr	Ser	Thr	Gln	Leu	Ser	Arg	Glu	Arg	Glu		
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Glu	Leu	Glu	Arg	Gln	Glu	Leu	Leu	Arg	Gln	Leu	Asp	Glu	Glu	His	Gly		
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Gly	Pro	Ser	Gly	Ser	Gly	Gly	Ala	Lys	Gly	Ala	Lys	Gly	Lys	Asp	Asp		
1185					1190					1195				1200			
Pro	Gly	Gln	Gln	Met	Leu	Ala	Thr	Asn	Asn	Gln	Gly	Arg	Ile	Leu	Arg		
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Ile	Thr	Arg	Thr	Phe	Arg	Gly	Asn	Asp	Gly	Lys	Glu	Tyr	Thr	Arg	Val		
		1220						1225					1230				
Glu	Thr	Val	Arg	Arg	Gln	Pro	Val	Ile	Asp	Ala	Tyr	Ile	Lys	Ile	Arg		
	1235					1240						1245					
Thr	Thr	Lys	Asp	Glu	Gln	Phe	Ile	Lys	Gln	Phe	Ala	Thr	Leu	Asp	Glu		
	1250					1255					1260						
Gln	Gln	Lys	Glu	Glu	Met	Lys	Arg	Glu	Lys	Arg	Arg	Ile	Gln	Glu	Gln		
1265					1270				1275					1280			
Leu	Arg	Arg	Ile	Lys	Arg	Asn	Gln	Glu	Arg	Glu	Arg	Leu	Ala	Gln	Leu		
				1285				1290						1295			
Ala	Gln	Asn	Gln	Lys	Leu	Gln	Pro	Gly	Gly	Met	Pro	Thr	Ser	Leu	Gly		
		1300						1305				1310					
Asp	Pro	Lys	Ser	Ser	Gly	Gly	His	Ser	His	Lys	Glu	Arg	Asp	Ser	Gly		
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Tyr	Lys	Glu	Val	Ser	Pro	Ser	Arg	Lys	Lys	Phe	Lys	Leu	Lys	Pro	Asp		
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Leu	Lys	Leu	Lys	Cys	Gly	Ala	Cys	Gly	Gln	Val	Gly	His	Met	Arg	Thr		
1345					1350				1355					1360			
Asn	Lys	Ala	Cys	Pro	Leu	Tyr	Ser	Gly	Met	Gln	Ser	Ser	Leu	Ser	Gln		
			1365					1370					1375				
Ser	Asn	Pro	Ser	Leu	Ala	Asp	Asp	Phe	Asp	Glu	Gln	Ser	Glu	Lys	Glu		
	1380						1385					1390					
Met	Thr	Met	Asp	Asp	Asp	Asp	Leu	Val	Asn	Val	Asp	Gly	Thr	Lys	Val		
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Thr	Leu	Ser	Ser	Lys	Ile	Leu	Lys	Arg	His	Gly	Gly	Asp	Asp	Gly	Lys		
	1410					1415					1420						
Arg	Arg	Ser	Gly	Ser	Ser	Gly	Phe	Thr	Leu	Lys	Val	Pro	Arg	Asp			
1425					1430				1435					1440			
Ala	Met	Gly	Lys	Lys	Lys	Arg	Arg	Val	Gly	Gly	Asp	Leu	His	Cys	Asp		
			1445					1450						1455			
Tyr	Leu	Gln	Arg	His	Asn	Lys	Thr	Ala	Asn	Arg	Arg	Arg	Thr	Asp	Pro		
		1460					1465						1470				
Val	Val	Val	Leu	Ser	Ser	Ile	Leu	Glu	Ile	Ile	His	Asn	Glu	Leu	Arg		
	1475					1480					1485						
Ser	Met	Pro	Asp	Val	Ser	Pro	Phe	Leu	Phe	Pro	Val	Ser	Ala	Lys	Lys		
	1490					1495					1500						
Val	Pro	Asp	Tyr	Tyr	Arg	Val	Val	Thr	Lys	Pro	Met	Asp	Leu	Gln	Thr		
1505					1510				1515					1520			
Met	Arg	Glu	Tyr	Ile	Arg	Gln	Arg	Arg	Tyr	Thr	Ser	Arg	Glu	Met	Phe		
			1525					1530						1535			
Leu	Glu	Asp	Leu	Lys	Gln	Ile	Val	Asp	Asn	Ser	Leu	Ile	Tyr	Asn	Gly		
		1540					1545						1550				
Pro	Gln	Ser	Ala	Tyr	Thr	Leu	Ala	Ala	Gln	Arg	Met	Phe	Ser	Ser	Cys		
	1555					1560					1565						
Phe	Glu	Leu	Leu	Ala	Glu	Arg	Glu	Asp	Lys	Leu	Met	Arg	Leu	Glu	Lys		
	1570					1575					1580						
Ala	Ile	Asn	Pro	Leu	Leu	Asp	Asp	Asp	Asp	Gln	Val	Ala	Leu	Ser	Phe		
1585				1590				1595						1600			
Ile	Phe	Asp	Lys	Leu	His	Ser	Gln	Ile	Lys	Gln	Leu	Pro	Glu	Ser	Trp		

<211> 1872
 <212> PRT
 <213> Homo sapiens

<400> 6
 Met Gly Pro Gly Cys Asp Leu Leu Leu Arg Thr Ala Ala Thr Ile Thr
 1 5 10 15
 Ala Ala Ala Ile Met Ser Asp Thr Asp Ser Asp Glu Asp Ser Ala Gly
 20 25 30
 Gly Gly Pro Phe Ser Leu Ala Gly Phe Leu Phe Gly Asn Ile Asn Gly
 35 40 45
 Ala Gly Gln Leu Glu Gly Glu Ser Val Leu Asp Asp Glu Cys Lys Lys
 50 55 60
 His Leu Ala Gly Leu Gly Ala Leu Gly Leu Gly Ser Leu Ile Thr Glu
 65 70 75 80
 Leu Thr Ala Asn Glu Glu Leu Thr Gly Thr Asp Gly Ala Leu Val Asn
 85 90 95
 Asp Glu Gly Trp Val Arg Ser Thr Glu Asp Ala Val Asp Tyr Ser Asp
 100 105 110
 Ile Asn Glu Val Ala Glu Asp Glu Ser Arg Arg Tyr Gln Gln Thr Met
 115 120 125
 Gly Ser Leu Gln Pro Leu Cys His Ser Asp Tyr Asp Glu Asp Asp Tyr
 130 135 140
 Asp Ala Asp Cys Glu Asp Ile Asp Cys Lys Leu Met Pro Pro Pro Pro
 145 150 155 160
 Pro Pro Pro Gly Pro Met Lys Lys Asp Lys Asp Gln Asp Ser Ile Thr
 165 170 175
 Gly Glu Lys Val Asp Phe Ser Ser Ser Ser Asp Ser Glu Ser Glu Met
 180 185 190
 Gly Pro Gln Glu Ala Thr Gln Ala Glu Ser Glu Asp Gly Lys Leu Thr
 195 200 205
 Leu Pro Leu Ala Gly Ile Met Gln His Asp Ala Thr Lys Leu Leu Pro
 210 215 220
 Ser Val Thr Glu Leu Phe Pro Glu Phe Arg Pro Gly Lys Val Leu Arg
 225 230 235 240
 Phe Leu Arg Leu Phe Gly Pro Gly Lys Asn Val Pro Ser Val Trp Arg
 245 250 255
 Ser Ala Arg Arg Lys Arg Lys Lys Lys His Arg Glu Leu Ile Gln Glu
 260 265 270
 Glu Gln Ile Gln Glu Val Glu Cys Ser Val Glu Ser Glu Val Ser Gln
 275 280 285
 Lys Ser Leu Trp Asn Tyr Asp Tyr Ala Pro Pro Pro Pro Pro Glu Gln
 290 295 300
 Cys Leu Ser Asp Asp Glu Ile Thr Met Met Ala Pro Val Glu Ser Lys
 305 310 315 320
 Phe Ser Gln Ser Thr Gly Asp Ile Asp Lys Val Thr Asp Thr Lys Pro
 325 330 335
 Arg Val Ala Glu Trp Arg Tyr Gly Pro Ala Arg Leu Trp Tyr Asp Met
 340 345 350
 Leu Gly Val Pro Glu Asp Gly Ser Gly Phe Asp Tyr Gly Phe Lys Leu
 355 360 365
 Arg Lys Thr Glu His Glu Pro Val Ile Lys Ser Arg Met Ile Glu Glu
 370 375 380
 Phe Arg Lys Leu Glu Glu Asn Asn Gly Thr Asp Leu Leu Ala Asp Glu
 385 390 395 400
 Asn Phe Leu Met Val Thr Gln Leu His Trp Glu Asp Asp Ile Ile Trp
 405 410 415
 Asp Gly Glu Asp Val Lys His Lys Gly Thr Lys Pro Gln Arg Ala Ser
 420 425 430
 Leu Ala Gly Trp Leu Pro Ser Ser Met Thr Arg Asn Ala Met Ala Tyr
 435 440 445

Asn	Val	Gln	Gln	Gly	Phe	Ala	Ala	Thr	Leu	Asp	Asp	Asp	Lys	Pro	Trp
450						455					460				
Tyr	Ser	Ile	Phe	Pro	Ile	Asp	Asn	Glu	Asp	Leu	Val	Tyr	Gly	Arg	Trp
465					470					475					480
Glu	Asp	Asn	Ile	Ile	Trp	Asp	Ala	Gln	Ala	Met	Pro	Arg	Leu	Leu	Glu
				485					490						495
Pro	Pro	Val	Leu	Thr	Leu	Asp	Pro	Asn	Asp	Glu	Asn	Leu	Ile	Leu	Glu
			500					505					510		
Ile	Pro	Asp	Glu	Lys	Glu	Glu	Ala	Thr	Ser	Asn	Ser	Pro	Ser	Lys	Glu
		515					520					525			
Ser	Lys	Lys	Glu	Ser	Ser	Leu	Lys	Lys	Ser	Arg	Ile	Leu	Leu	Gly	Lys
		530				535					540				
Thr	Gly	Val	Ile	Lys	Glu	Glu	Pro	Gln	Gln	Asn	Met	Ser	Gln	Pro	Glu
545					550					555					560
Val	Lys	Asp	Pro	Trp	Asn	Leu	Ser	Asn	Asp	Glu	Tyr	Tyr	Tyr	Pro	Lys
				565					570					575	
Gln	Gln	Gly	Leu	Arg	Gly	Thr	Phe	Gly	Gly	Asn	Ile	Ile	Gln	His	Ser
			580					585					590		
Ile	Pro	Ala	Val	Glu	Leu	Arg	Gln	Pro	Phe	Phe	Pro	Thr	His	Met	Gly
		595					600					605			
Pro	Ile	Lys	Leu	Arg	Gln	Phe	His	Arg	Pro	Pro	Leu	Lys	Lys	Tyr	Ser
		610				615					620				
Phe	Gly	Ala	Leu	Ser	Gln	Pro	Gly	Pro	His	Ser	Val	Gln	Pro	Leu	Leu
625					630					635					640
Lys	His	Ile	Lys	Lys	Lys	Ala	Lys	Met	Arg	Glu	Gln	Glu	Arg	Gln	Ala
				645					650					655	
Ser	Gly	Gly	Gly	Glu	Met	Phe	Phe	Met	Arg	Thr	Pro	Gln	Asp	Leu	Thr
			660					665					670		
Gly	Lys	Asp	Gly	Asp	Leu	Ile	Leu	Ala	Glu	Tyr	Ser	Glu	Glu	Asn	Gly
		675					680					685			
Pro	Leu	Met	Met	Gln	Val	Gly	Met	Ala	Thr	Lys	Ile	Lys	Asn	Tyr	Tyr
		690				695					700				
Lys	Arg	Lys	Pro	Gly	Lys	Asp	Pro	Gly	Ala	Pro	Asp	Cys	Lys	Tyr	Gly
705					710					715					720
Glu	Thr	Val	Tyr	Cys	His	Thr	Ser	Pro	Phe	Leu	Gly	Ser	Leu	His	Pro
				725					730					735	
Gly	Gln	Leu	Leu	Gln	Ala	Phe	Glu	Asn	Leu	Phe	Arg	Ala	Pro	Ile	
			740					745				750			
Tyr	Leu	His	Lys	Met	Pro	Glu	Thr	Asp	Phe	Leu	Ile	Ile	Arg	Thr	Arg
		755					760					765			
Gln	Gly	Tyr	Tyr	Ile	Arg	Glu	Leu	Val	Asp	Ile	Phe	Val	Val	Gly	Gln
		770				775					780				
Gln	Cys	Pro	Leu	Phe	Glu	Val	Pro	Gly	Pro	Asn	Ser	Lys	Arg	Ala	Asn
785					790					795					800
Thr	His	Ile	Arg	Asp	Phe	Leu	Gln	Val	Phe	Ile	Tyr	Arg	Leu	Phe	Trp
				805					810					815	
Lys	Ser	Lys	Asp	Arg	Pro	Arg	Arg	Ile	Arg	Met	Glu	Asp	Ile	Lys	Lys
			820					825					830		
Ala	Phe	Pro	Ser	His	Ser	Glu	Ser	Ser	Ile	Arg	Lys	Arg	Leu	Lys	Leu
		835					840					845			
Cys	Ala	Asp	Phe	Lys	Arg	Thr	Gly	Met	Asp	Ser	Asn	Trp	Trp	Val	Leu
		850				855					860				
Lys	Ser	Asp	Phe	Arg	Leu	Pro	Thr	Glu	Glu	Glu	Ile	Arg	Ala	Met	Val
865					870					875					880
Ser	Pro	Glu	Gln	Cys	Cys	Ala	Tyr	Tyr	Ser	Met	Ile	Ala	Ala	Glu	Gln
				885					890					895	
Arg	Leu	Lys	Asp	Ala	Gly	Tyr	Gly	Glu	Lys	Ser	Phe	Phe	Ala	Pro	Glu
			900					905					910		
Glu	Glu	Asn	Glu	Glu	Asp	Phe	Gln	Met	Lys	Ile	Asp	Asp	Glu	Val	Arg
		915					920					925			
Thr	Ala	Pro	Trp	Asn	Thr	Thr	Arg	Ala	Phe	Ile	Ala	Ala	Met	Lys	Gly

930 935 940
 Lys Cys Leu Leu Glu Val Thr Gly Val Ala Asp Pro Thr Gly Cys Gly
 945 950 955 960
 Glu Gly Phe Ser Tyr Val Lys Ile Pro Asn Lys Pro Thr Gln Gln Lys
 965 970 975
 Asp Asp Lys Glu Pro Gln Pro Val Lys Thr Val Thr Gly Thr Asp
 980 985 990
 Ala Asp Leu Arg Arg Leu Ser Leu Lys Asn Ala Lys Gln Leu Leu Arg
 995 1000 1005
 Lys Phe Gly Val Pro Glu Glu Glu Ile Lys Lys Leu Ser Arg Trp Glu
 1010 1015 1020
 Val Ile Asp Val Val Arg Thr Met Ser Thr Glu Gln Ala Arg Ser Gly
 1025 1030 1035 1040
 Glu Gly Pro Met Ser Lys Phe Ala Arg Gly Ser Arg Phe Ser Val Ala
 1045 1050 1055
 Glu His Gln Glu Arg Tyr Lys Glu Glu Cys Gln Arg Ile Phe Asp Leu
 1060 1065 1070
 Gln Asn Lys Val Leu Ser Ser Thr Glu Val Leu Ser Thr Asp Thr Asp
 1075 1080 1085
 Ser Ser Ser Ala Glu Asp Ser Asp Phe Glu Glu Met Gly Lys Asn Ile
 1090 1095 1100
 Glu Asn Met Leu Gln Asn Lys Lys Thr Ser Ser Gln Leu Ser Arg Glu
 1105 1110 1115 1120
 Arg Glu Glu Gln Glu Arg Lys Glu Leu Gln Arg Met Leu Leu Ala Ala
 1125 1130 1135
 Gly Ser Ala Ala Ser Gly Asn Asn His Arg Asp Asp Thr Ala Ser
 1140 1145 1150
 Val Thr Ser Leu Asn Ser Ser Ala Thr Gly Arg Cys Leu Lys Ile Tyr
 1155 1160 1165
 Arg Thr Phe Arg Asp Glu Glu Gly Lys Glu Tyr Val Arg Cys Glu Thr
 1170 1175 1180
 Val Arg Lys Pro Ala Val Ile Asp Ala Tyr Val Arg Ile Arg Thr Thr
 1185 1190 1195 1200
 Lys Asp Glu Glu Phe Ile Arg Lys Phe Ala Leu Phe Asp Glu Gln His
 1205 1210 1215
 Arg Glu Glu Met Arg Lys Glu Arg Arg Ile Gln Glu Gln Leu Arg
 1220 1225 1230
 Arg Leu Lys Arg Asn Gln Glu Lys Glu Lys Leu Lys Gly Pro Pro Glu
 1235 1240 1245
 Lys Lys Pro Lys Lys Met Lys Glu Arg Pro Asp Leu Lys Leu Lys Cys
 1250 1255 1260
 Gly Ala Cys Gly Ala Ile Gly His Met Arg Thr Asn Lys Phe Cys Pro
 1265 1270 1275 1280
 Leu Tyr Tyr Gln Thr Asn Ala Pro Pro Ser Asn Pro Val Ala Met Thr
 1285 1290 1295
 Glu Glu Gln Glu Glu Leu Glu Lys Thr Val Ile His Asn Asp Asn
 1300 1305 1310
 Glu Glu Leu Ile Lys Val Glu Gly Thr Lys Ile Val Leu Gly Lys Gln
 1315 1320 1325
 Leu Ile Glu Ser Ala Asp Glu Val Arg Arg Lys Ser Leu Val Leu Lys
 1330 1335 1340
 Phe Pro Lys Gln Gln Leu Pro Pro Lys Lys Lys Arg Arg Val Gly Thr
 1345 1350 1355 1360
 Thr Val His Cys Asp Tyr Leu Asn Arg Pro His Lys Ser Ile His Arg
 1365 1370 1375
 Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser Ile
 1380 1385 1390
 Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr Pro
 1395 1400 1405
 Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg Pro
 1410 1415 1420

B1
 Cont.

Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr Pro
 1425 1430 1435 1440
 Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn Ser
 1445 1450 1455
 Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln Ser
 1460 1465 1470
 Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu Asp Lys Leu
 1475 1480 1485
 Ala Arg Leu Glu Lys Ala Ile Asn Pro Leu Leu Asp Asp Asp Asp Gln
 1490 1495 1500
 Val Ala Phe Ser Phe Ile Leu Asp Asn Ile Val Thr Gln Lys Met Met
 1505 1510 1515 1520
 Ala Val Pro Asp Ser Trp Pro Phe His His Pro Val Asn Lys Lys Phe
 1525 1530 1535
 Val Pro Asp Tyr Tyr Lys Val Ile Val Asn Pro Met Asp Leu Glu Thr
 1540 1545 1550
 Ile Arg Lys Asn Ile Ser Lys His Lys Tyr Gln Ser Arg Glu Ser Phe
 1555 1560 1565
 Leu Asp Asp Val Asn Leu Ile Leu Ala Asn Ser Val Lys Tyr Asn Gly
 1570 1575 1580
 Pro Glu Ser Gln Tyr Thr Lys Thr Ala Gln Glu Ile Val Asn Val Cys
 1585 1590 1595 1600
 Tyr Gln Thr Leu Thr Glu Tyr Asp Glu His Leu Thr Gln Leu Glu Lys
 1605 1610 1615
 Asp Ile Cys Thr Ala Lys Glu Ala Ala Leu Glu Glu Ala Glu Leu Glu
 1620 1625 1630
 Ser Leu Asp Pro Met Thr Pro Gly Pro Tyr Thr Pro Gln Pro Pro Asp
 1635 1640 1645
 Leu Tyr Asp Thr Asn Thr Ser Leu Ser Met Ser Arg Asp Ala Ser Val
 1650 1655 1660
 Phe Gln Asp Glu Ser Asn Met Ser Val Leu Asp Ile Pro Ser Ala Thr
 1665 1670 1675 1680
 Pro Glu Lys Gln Val Thr Gln Glu Gly Glu Asp Gly Asp Gly Asp Leu
 1685 1690 1695
 Ala Asp Glu Glu Glu Gly Thr Val Gln Gln Pro Gln Ala Ser Val Leu
 1700 1705 1710
 Tyr Glu Asp Leu Leu Met Ser Glu Gly Glu Asp Asp Glu Glu Asp Ala
 1715 1720 1725
 Gly Ser Asp Glu Glu Gly Asp Asn Pro Phe Ser Ala Ile Gln Leu Ser
 1730 1735 1740
 Glu Ser Gly Ser Asp Ser Asp Val Gly Ser Gly Gly Ile Arg Pro Lys
 1745 1750 1755 1760
 Gln Pro Arg Met Leu Gln Glu Asn Thr Arg Met Asp Met Glu Asn Glu
 1765 1770 1775
 Glu Ser Met Met Ser Tyr Glu Gly Asp Gly Gly Glu Ala Ser His Gly
 1780 1785 1790
 Leu Glu Asp Ser Asn Ile Ser Tyr Gly Ser Tyr Glu Glu Pro Asp Pro
 1795 1800 1805
 Lys Ser Asn Thr Gln Asp Thr Ser Phe Ser Ser Ile Gly Gly Tyr Glu
 1810 1815 1820
 Val Ser Glu Glu Glu Asp Glu Glu Glu Glu Gln Arg Ser Gly
 1825 1830 1835 1840
 Pro Ser Val Leu Ser Gln Val His Leu Ser Glu Asp Glu Glu Asp Ser
 1845 1850 1855
 Glu Asp Phe His Ser Ile Ala Gly Asp Ser Asp Leu Asp Ser Asp Glu
 1860 1865 1870

<210> 7

<211> 429

<212> PRT

<213> C. albicans

<400> 7

Glu	Leu	Leu	Leu	Asn	Pro	Leu	Asp	Asn	Ser	Lys	Gln	Asn	Arg	Gln
1				5				10					15	
Lys	Ile	Glu	Asn	Asp	Asn	Thr	Thr	Asn	Asn	Tyr	Asn	Gln	Asn	Ser
			20					25					30	
Asn	Val	Gln	Asp	Glu	Glu	Glu	Asp	Asp	Ile	Phe	Asn	Gly	Gln	Ile
		35					40				45			
Asn	Leu	Asp	Lys	Leu	Lys	Leu	Asp	Met	Asn	Asp	Pro	Asn	Leu	Phe
	50					55					60			
Val	Pro	Ser	Lys	Lys	Val	Asp	Ala	Thr	Lys	Ser	Val	Val	Pro	Thr
65					70					75				80
Asp	Lys	Leu	Leu	Glu	Leu	Lys	Phe	Asn	Ile	Ser	Asn	Asp	Gln	Tyr
				85					90				95	
Glu	Leu	Leu	Arg	Lys	Asn	Tyr	Asn	Thr	Lys	Gln	Arg	Ser	Gln	Ser
			100					105					110	
Asn	Leu	Asn	Ile	Glu	His	Ser	Val	Pro	Ala	Leu	Arg	Leu	Gln	Thr
		115					120					125		Pro
Tyr	Tyr	Lys	Val	Lys	Leu	Ser	Thr	Asp	Glu	Thr	Arg	Ser	Phe	His
	130					135					140			Arg
Pro	Val	Phe	Asn	Val	Arg	Pro	Gly	Thr	Leu	Val	Ser	Phe	Ser	Lys
145					150					155				Leu
Lys	Leu	Arg	Lys	Arg	Lys	Lys	Asp	Lys	Gly	Lys	Ser	Leu	Gln	Gln
				165					170					Ile
Phe	Ser	Lys	Thr	Ser	Asp	Leu	Thr	Val	Ala	Asp	Thr	Gly	Asn	Ile
			180					185					190	Ile
Ala	Leu	Glu	Tyr	Ser	Glu	Gln	Tyr	Pro	Pro	Ile	Leu	Ser	Asn	Phe
			195				200					205		Gly
Met	Gly	Ser	Lys	Leu	Ile	Asn	Tyr	Tyr	Arg	Lys	Glu	Arg	Pro	Asn
	210					215					220			Asp
Thr	Ser	Arg	Pro	Lys	Ala	Gln	Ile	Gly	Glu	Thr	His	Ile	Leu	Gly
225					230					235				Val
Glu	Asp	Arg	Ser	Pro	Phe	Trp	Asn	Phe	Gly	Glu	Val	Ala	Pro	Gly
				245					250					Asp
Phe	Val	Pro	Thr	Leu	Tyr	Asn	Asn	Met	Val	Arg	Ala	Pro	Ile	Phe
			260					265					270	Lys
His	Asp	Asn	Lys	Pro	Thr	Asp	Phe	Leu	Leu	Val	Lys	Ser	Gln	Gly
		275					280					285		Ala
Gly	Ser	His	Gln	Lys	Phe	Tyr	Leu	Arg	Gly	Ile	Asn	Phe	Asn	Phe
	290					295					300			Ala
Val	Gly	Asn	Thr	Phe	Pro	Val	Glu	Val	Pro	Ala	Pro	His	Ser	Arg
305					310					315				Lys
Val	Thr	Asn	Ile	Ser	Lys	Asn	Arg	Leu	Lys	Met	Val	Val	Phe	Arg
				325					330					Val
Met	Asn	Ser	Leu	Gly	Val	Pro	Arg	Ile	Ser	Val	Lys	Asp	Val	Ser
			340					345					350	Lys
His	Phe	Pro	Glu	His	Ser	Asp	Met	Gln	Asn	Arg	Gln	Arg	Leu	Lys
		355					360					365		Glu
Phe	Met	Glu	Tyr	Gln	Arg	Gln	Gly	Glu	Asp	Gln	Gly	Tyr	Trp	Lys
	370					375					380			Val
Arg	Gly	Leu	Asn	Asp	Val	Ile	Pro	Gly	Glu	Glu	Glu	Ile	Arg	Thr
385					390					395				Met
Ile	Thr	Pro	Glu	Asp	Ser	Ser	Leu	Met	Asp	Thr	Met	Gln	Phe	Gly
				405					410					Gln
Gln	Val	Leu	Asp	Asp	Asn	Met	Val	Leu	Phe	Gly	Glu	Gln		
			420					425						

<210> 8

<211> 434

<212> PRT

<213> S. cerevisiae

<400> 8

Met	Thr	Pro	Asn	Leu	Lys	Phe	Ser	Gly	Gly	Tyr	Lys	Leu	Lys	Ser	Leu
1				5					10					15	
Ile	Glu	Asp	Val	Ala	Glu	Asp	Trp	Gln	Trp	Asp	Glu	Asp	Met	Ile	Ile
		20						25					30		
Asp	Ala	Lys	Leu	Lys	Glu	Ser	Lys	His	Ala	Glu	Leu	Asn	Met	Asn	Asp
		35					40					45			
Glu	Lys	Leu	Leu	Leu	Met	Ile	Glu	Lys	Thr	Asn	Asn	Leu	Ala	Gln	Gln
	50					55					60				
Lys	Gln	Gln	Leu	Asp	Ser	Ser	Asn	Leu	Ile	Leu	Pro	Leu	Asn	Glu	Thr
65					70					75				80	
Ile	Leu	Gln	Gln	Lys	Phe	Asn	Leu	Ser	Asn	Asp	Asp	Lys	Tyr	Gln	Ile
				85					90					95	
Leu	Lys	Lys	Thr	His	Gln	Thr	Lys	Val	Arg	Ser	Thr	Ile	Ser	Asn	Leu
			100					105					110		
Asn	Ile	Gln	His	Ser	Gln	Pro	Ala	Ile	Asn	Leu	Gln	Ser	Pro	Phe	Tyr
		115					120					125			
Lys	Val	Ala	Val	Pro	Arg	Tyr	Gln	Leu	Arg	His	Phe	His	Arg	Glu	Asn
	130					135					140				
Phe	Gly	Ser	His	Ile	Arg	Pro	Gly	Thr	Lys	Ile	Val	Phe	Ser	Lys	Leu
145					150					155					160
Lys	Ala	Arg	Lys	Arg	Lys	Arg	Asp	Lys	Gly	Lys	Asp	Val	Lys	Glu	Ser
				165					170					175	
Phe	Ser	Thr	Ser	Gln	Asp	Leu	Thr	Ile	Gly	Asp	Thr	Ala	Pro	Val	Tyr
			180					185					190		
Leu	Met	Glu	Tyr	Ser	Glu	Gln	Thr	Pro	Val	Ala	Leu	Ser	Lys	Phe	Gly
		195					200					205			
Met	Ala	Asn	Lys	Leu	Ile	Asn	Tyr	Tyr	Arg	Lys	Ala	Asn	Glu	Gln	Asp
	210					215					220				
Thr	Leu	Arg	Pro	Lys	Leu	Pro	Val	Gly	Glu	Thr	His	Val	Leu	Gly	Val
225					230					235					240
Gln	Asp	Lys	Ser	Pro	Phe	Trp	Asn	Phe	Gly	Phe	Val	Glu	Pro	Gly	His
				245					250					255	
Ile	Val	Pro	Thr	Leu	Tyr	Asn	Asn	Met	Ile	Arg	Ala	Pro	Val	Phe	Lys
			260					265					270		
His	Asp	Ile	Ser	Gly	Thr	Asp	Phe	Leu	Leu	Thr	Lys	Ser	Ser	Gly	Phe
		275					280					285			
Gly	Ile	Ser	Asn	Arg	Phe	Tyr	Leu	Arg	Asn	Ile	Asn	His	Leu	Phe	Thr
	290					295					300				
Val	Gly	Gln	Thr	Phe	Pro	Val	Glu	Glu	Ile	Pro	Gly	Pro	Asn	Ser	Arg
					310					315					320
Lys	Val	Thr	Ser	Met	Lys	Ala	Thr	Arg	Leu	Lys	Met	Ile	Ile	Tyr	Arg
				325					330					335	
Ile	Leu	Asn	His	Asn	His	Ser	Lys	Ala	Ile	Ser	Ile	Asp	Pro	Ile	Ala
			340					345					350		
Lys	His	Phe	Pro	Asp	Gln	Asp	Tyr	Gly	Gln	Asn	Arg	Gln	Lys	Val	Lys
		355					360					365			
Glu	Phe	Met	Lys	Tyr	Gln	Arg	Asp	Gly	Pro	Glu	Lys	Gly	Leu	Trp	Arg
	370					375					380				
Leu	Lys	Asp	Asp	Glu	Lys	Leu	Leu	Asp	Asn	Glu	Ala	Val	Lys	Ser	Leu
385					390					395					400
Ile	Thr	Pro	Glu	Gln	Ile	Ser	Gln	Val	Glu	Ser	Met	Ser	Gln	Gly	Leu
				405					410					415	
Gln	Phe	Gln	Glu	Asp	Asn	Glu	Ala	Tyr	Asn	Phe	Asp	Ser	Lys	Leu	Lys
			420					425					430		
Ser	Leu														

<210> 9

<211> 415

<212> PRT
<213> S. pombe

<400> 9
Val Asn Lys Thr Asn Gln Ser Ser Phe Phe Ile Asp Lys Ser Leu Val
1 5 10 15
Asp Ile Asp Phe Ala Phe Asp Glu Asn Ile Phe Asp Gly Asp Thr Gly
20 25 30
Thr Ser Lys Val Val Leu Asn Leu Asn Asp Pro Lys Leu Leu Leu Gln
35 40 45
Pro Gln Leu Pro Lys Lys Glu Asp Ser Gln Arg Ser Phe Ala Asp Thr
50 55 60
His Gln Arg Asn Ser Leu Ala Trp Lys Phe Asn Ile Ser Asn Asp Pro
65 70 75 80
Ala Tyr Glu Met Leu Lys Gln Asn His Gln Ser Lys Val Arg Asn Thr
85 90 95
Leu Ser Gln Leu Ala Ile Glu His Ala Ala Phe Ala Glu Lys Leu Thr
100 105 110
Phe Pro Tyr Tyr Lys Thr Arg Leu Ser Lys Arg Ala Val Arg Ser Tyr
115 120 125
His Arg Pro Thr Met Ser Phe Lys Pro Asn Ala Ala Ile Val Phe Ser
130 135 140
Pro Leu Ile Val Arg Lys Arg Ser Lys Asp Lys His Lys Ser Glu Arg
145 150 155 160
Glu Leu Ile Pro Thr Thr Lys Glu Ile Thr Met Gly Asp Thr Thr His
165 170 175
Ala Ile Leu Val Glu Phe Ser Glu Glu His Pro Ala Val Leu Ser Asn
180 185 190
Ala Gly Met Ala Ser Arg Ile Val Asn Tyr Tyr Arg Lys Lys Asn Glu
195 200 205
Gln Asp Glu Ser Arg Pro Lys Leu Glu Val Gly Glu Ser His Val Leu
210 215 220
Asp Val Gln Asp Arg Ser Pro Phe Trp Asn Phe Gly Ser Val Glu Pro
225 230 235 240
Gly Glu Ile Thr Pro Thr Leu Tyr Asn Lys Met Ile Arg Ala Pro Leu
245 250 255
Phe Lys His Glu Val Pro Pro Thr Asp Phe Ile Leu Ile Arg Asn Ser
260 265 270
Ser Ser Tyr Gly Ser Lys Tyr Tyr Leu Lys Asn Ile Asn His Met Phe
275 280 285
Val Ser Gly Gln Thr Phe Pro Val Thr Asp Val Pro Gly Pro His Ser
290 295 300
Arg Lys Val Thr Thr Ala Ser Lys Asn Arg Leu Lys Met Leu Val Phe
305 310 315 320
Arg Leu Ile Arg Arg Ser Pro Asn Gly Gly Leu Phe Ile Arg Gln Leu
325 330 335
Ser Lys His Phe Ser Asp Gln Asn Glu Met Gln Ile Arg Gln Arg Leu
340 345 350
Lys Glu Phe Met Glu Tyr Lys Lys Lys Gly Asp Gly Pro Gly Tyr Trp
355 360 365
Lys Leu Lys Ser Asn Glu Val Val Pro Asp Glu Ala Gly Thr Arg Ser
370 375 380
Met Val Ser Pro Glu Thr Val Cys Leu Leu Glu Ser Met Gln Val Gly
385 390 395 400
Val Arg Gln Leu Glu Asp Ala Gly Tyr Gly Lys Thr Met Asp Glu
405 410 415

<210> 10
<211> 481
<212> PRT
<213> Homo sapiens

<400> 10

Ser	Leu	Ala	Gly	Trp	Leu	Pro	Ser	Ser	Met	Thr	Arg	Asn	Ala	Met	Ala
1				5					10					15	
Tyr	Asn	Val	Gln	Gly	Phe	Ala	Ala	Ala	Thr	Leu	Asp	Asp	Asp	Lys	Pro
		20					25						30		
Trp	Tyr	Ser	Ile	Phe	Pro	Ile	Asp	Asn	Glu	Asp	Leu	Val	Tyr	Gly	Arg
		35					40					45			
Trp	Glu	Asp	Asn	Ile	Ile	Trp	Asp	Ala	Gln	Ala	Met	Pro	Arg	Leu	Leu
	50					55					60				
Glu	Pro	Pro	Val	Leu	Thr	Leu	Asp	Pro	Asn	Asp	Glu	Asn	Leu	Ile	Leu
65					70					75					80
Glu	Ile	Pro	Asp	Glu	Lys	Glu	Glu	Ala	Thr	Ser	Asn	Ser	Pro	Ser	Lys
			85						90					95	
Glu	Ser	Lys	Lys	Glu	Ser	Ser	Leu	Lys	Lys	Ser	Arg	Ile	Leu	Leu	Gly
			100					105					110		
Lys	Thr	Gly	Val	Ile	Lys	Glu	Glu	Pro	Gln	Gln	Asn	Met	Ser	Gln	Pro
		115					120					125			
Glu	Val	Lys	Asp	Pro	Trp	Asn	Leu	Ser	Asn	Asp	Glu	Tyr	Tyr	Tyr	Pro
	130					135					140				
Lys	Gln	Gln	Gly	Leu	Arg	Gly	Thr	Phe	Gly	Gly	Asn	Ile	Ile	Gln	His
145					150					155					160
Ser	Ile	Pro	Ala	Val	Glu	Leu	Arg	Gln	Pro	Phe	Phe	Pro	Thr	His	Met
				165					170					175	
Gly	Pro	Ile	Lys	Leu	Arg	Gln	Phe	His	Arg	Pro	Pro	Leu	Lys	Lys	Tyr
			180					185					190		
Ser	Phe	Gly	Ala	Leu	Ser	Gln	Pro	Gly	Pro	His	Ser	Val	Gln	Pro	Leu
	195						200					205			
Leu	Lys	His	Ile	Lys	Lys	Lys	Ala	Lys	Met	Arg	Glu	Gln	Glu	Arg	Gln
	210					215					220				
Ala	Ser	Gly	Gly	Gly	Glu	Met	Phe	Phe	Met	Arg	Thr	Pro	Gln	Asp	Leu
225					230					235					240
Thr	Gly	Lys	Asp	Gly	Asp	Leu	Ile	Leu	Ala	Glu	Tyr	Ser	Glu	Glu	Asn
			245						250					255	
Gly	Pro	Leu	Met	Met	Gln	Val	Gly	Met	Ala	Thr	Lys	Ile	Lys	Asn	Tyr
			260					265					270		
Tyr	Lys	Arg	Lys	Pro	Gly	Lys	Asp	Pro	Gly	Ala	Pro	Asp	Cys	Lys	Tyr
	275						280					285			
Gly	Glu	Thr	Val	Tyr	Cys	His	Thr	Ser	Pro	Phe	Leu	Gly	Ser	Leu	His
	290					295					300				
Pro	Gly	Gln	Leu	Leu	Gln	Ala	Phe	Glu	Asn	Asn	Leu	Phe	Arg	Ala	Pro
305					310					315					320
Ile	Tyr	Leu	His	Lys	Met	Pro	Glu	Thr	Asp	Phe	Leu	Ile	Ile	Arg	Thr
				325					330					335	
Arg	Gln	Gly	Tyr	Tyr	Ile	Arg	Glu	Leu	Val	Asp	Ile	Phe	Val	Val	Gly
			340					345					350		
Gln	Gln	Cys	Pro	Leu	Phe	Glu	Val	Pro	Gly	Pro	Asn	Ser	Lys	Arg	Ala
		355					360					365			
Asn	Thr	His	Ile	Arg	Asp	Phe	Leu	Gln	Val	Phe	Ile	Tyr	Arg	Leu	Phe
	370					375					380				
Trp	Lys	Ser	Lys	Asp	Arg	Pro	Arg	Arg	Ile	Arg	Met	Glu	Asp	Ile	Lys
385					390					395					400
Lys	Ala	Phe	Pro	Ser	His	Ser	Glu	Ser	Ser	Ile	Arg	Lys	Arg	Leu	Lys
				405					410					415	
Leu	Cys	Ala	Asp	Phe	Lys	Arg	Thr	Gly	Met	Asp	Ser	Asn	Trp	Trp	Val
			420					425					430		
Leu	Lys	Ser	Asp	Phe	Arg	Leu	Pro	Thr	Glu	Glu	Glu	Ile	Arg	Ala	Met
		435					440					445			
Val	Ser	Pro	Glu	Gln	Cys	Cys	Ala	Tyr	Tyr	Ser	Met	Ile	Ala	Ala	Glu
	450					455					460				
Gln	Arg	Leu	Lys	Asp	Ala	Gly	Tyr	Gly	Glu	Lys	Ser	Phe	Phe	Ala	Pro

465
Glu

470

475

480

<210> 11
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<212> PRT
<213> C. albicans

<400> 11
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Glu Lys Glu Lys Glu Gln Glu Arg Glu Glu Lys Gly Lys Asp Lys
20 25 30
Glu Lys Asp Lys Asp Lys Glu Lys Asp Lys Thr Glu Lys Glu Lys Ser
35 40 45
Lys Lys Ser Lys Glu Gln Asp Thr Glu Ile Asp Val Glu Glu Glu Leu
50 55 60
Ala Pro Trp Asn Leu Ser Arg Asn Phe Val
65 70

<210> 12
<211> 18
<212> DNA
<213> "Artificial Sequence"
<220>

<223> sequence source: Degenerate oligonucleotide designed and
used to amplify fragments of DNA from Candida albicans strain
SC5314 genomic DNA by polymerase chain reaction. n is defined as
Inosine.

<400> 12
ccwggwccwa aytcnadd 18

<210> 13
<211> 23
<212> DNA
<213> "Artificial Sequence"
<220>

<223> sequence source: Degenerate oligonucleotide designed and
used to amplify fragments of DNA from Candida albicans strain
SC5314 genomic DNA by polymerase chain reaction.

<400> 13
gayccwachg gwtgtggwga agg 23

<210> 14
<211> 24
<212> DNA
<213> "Artificial Sequence"
<220>

<223> sequence source: Degenerate oligonucleotide designed and
used to amplify fragments of DNA from Candida albicans strain
SC5314 genomic DNA by polymerase chain reaction.

<400> 14
cctttcwcca cawccagtwg grtc 24

<210> 15
<211> 19
<212> DNA

<213> "Artificial Sequence"
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 <223> sequence source: Degenerate oligonucleotide designed and
 used to amplify fragments of DNA from Candida albicans strain
 SC5314 genomic DNA by polymerase chain reaction. n is defined as
 Inosine.

<400> 15
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<210> 16
 <211> 30
 <212> DNA
 <213> "Artificial Sequence"
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 <223> S. cerevisiae

<400> 16
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<210> 17
 <211> 29
 <212> DNA
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 <220>
 <223> S. cerevisiae

<400> 17
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<210> 18
 <211> 37
 <212> DNA
 <213> "Artificial Sequence"
 <220>
 <223> C. albicans

<400> 18
 ggaattccat atgcttttgc tcaacaatcc ctggac 37

<210> 19
 <211> 32
 <212> DNA
 <213> "Artificial Sequence"
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 <223> C. albicans

<400> 19
 cgcggatccc tgctctgctc accgaataac ac 32

<210> 20
 <211> 37
 <212> DNA
 <213> "Artificial Sequence"
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 <223> Homo sapiens

<400> 20
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<210> 21
 <211> 33
 <212> DNA

<213> "Artificial Sequence"

<220>

<223> Homo sapiens

<400> 21

ccgctcgcagt tctggagcaa aaaaggattt ctc

33

<210> 22

<211> 0

<212> DNA

<213> Homo sapiens

<400> 22

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			20					25					30		
Gly	Gly	Pro	Phe	Ser	Leu	Ala	Gly	Phe	Leu	Phe	Gly	Asn	Ile	Asn	Gly
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Ala	Gly	Gln	Leu	Glu	Gly	Glu	Ser	Val	Leu	Asp	Asp	Glu	Cys	Lys	Lys
	50					55					60				
His	Leu	Ala	Gly	Leu	Gly	Ala	Leu	Gly	Leu	Gly	Ser	Leu	Ile	Thr	Glu
65				70					75						80
Leu	Thr	Ala	Asn	Glu	Leu	Thr	Gly	Thr	Asp	Gly	Ala	Leu	Val	Asn	
			85					90					95		
Asp	Glu	Gly	Trp	Val	Arg	Ser	Thr	Glu	Asp	Ala	Val	Asp	Tyr	Ser	Asp
			100					105					110		
Ile	Asn	Glu	Val	Ala	Glu	Asp	Glu	Ser	Arg	Arg	Tyr	Gln	Gln	Thr	Met
			115				120					125			
Gly	Ser	Leu	Gln	Pro	Leu	Cys	His	Ser	Asp	Tyr	Asp	Glu	Asp	Asp	Tyr
	130					135					140				
Asp	Ala	Asp	Cys	Glu	Asp	Ile	Asp	Cys	Lys	Leu	Met	Pro	Pro	Pro	Pro
145					150					155					160
Pro	Pro	Pro	Gly	Pro	Met	Lys	Lys	Asp	Lys	Asp	Gln	Asp	Ser	Ile	Thr
			165						170					175	
Gly	Glu	Lys	Val	Asp	Phe	Ser	Ser	Ser	Ser	Asp	Ser	Glu	Ser	Glu	Met
			180					185					190		
Gly	Pro	Gln	Glu	Ala	Thr	Gln	Ala	Glu	Ser	Glu	Asp	Gly	Lys	Leu	Thr
		195					200					205			
Leu	Pro	Leu	Ala	Gly	Ile	Met	Gln	His	Asp	Ala	Thr	Lys	Leu	Leu	Pro
	210					215					220				
Ser	Val	Thr	Glu	Leu	Phe	Pro	Glu	Phe	Arg	Pro	Gly	Lys	Val	Leu	Arg
225					230					235					240
Phe	Leu	Arg	Leu	Phe	Gly	Pro	Gly	Lys	Asn	Val	Pro	Ser	Val	Trp	Arg
			245						250					255	
Ser	Ala	Arg	Arg	Lys	Arg	Lys	Lys	Lys	His	Arg	Glu	Leu	Ile	Gln	Glu
			260					265					270		
Glu	Gln	Ile	Gln	Glu	Val	Glu	Cys	Ser	Val	Glu	Ser	Glu	Val	Ser	Gln
		275					280					285			
Lys	Ser	Leu	Trp	Asn	Tyr	Asp	Tyr	Ala	Pro	Pro	Pro	Pro	Pro	Glu	Gln
	290					295						300			
Cys	Leu	Ser	Asp	Asp	Glu	Ile	Thr	Met	Met	Ala	Pro	Val	Glu	Ser	Lys
305					310					315					320
Phe	Ser	Gln	Ser	Thr	Gly	Asp	Ile	Asp	Lys	Val	Thr	Asp	Thr	Lys	Pro
			325						330					335	
Arg	Val	Ala	Glu	Trp	Arg	Tyr	Gly	Pro	Ala	Arg	Leu	Trp	Tyr	Asp	Met
			340					345					350		
Leu	Gly	Val	Pro	Glu	Asp	Gly	Ser	Gly	Phe	Asp	Tyr	Gly	Phe	Lys	Leu
		355					360					365			
Arg	Lys	Thr	Glu	His	Glu	Pro	Val	Ile	Lys	Ser	Arg	Met	Ile	Glu	Glu
	370					375					380				
Phe	Arg	Lys	Leu	Glu	Glu	Asn	Asn	Gly	Thr	Asp	Leu	Leu	Ala	Asp	Glu

385					390					395				400
Asn	Phe	Leu	Met	Val	Thr	Gln	Leu	His	Trp	Glu	Asp	Asp	Ile	Ile
				405					410					415
Asp	Gly	Glu	Asp	Val	Lys	His	Lys	Gly	Thr	Lys	Pro	Gln	Arg	Ala
			420					425					430	
Leu	Ala	Gly	Trp	Leu	Pro	Ser	Ser	Met	Thr	Arg	Asn	Ala	Met	Tyr
		435					440					445		
Asn	Val	Gln	Gln	Gly	Phe	Ala	Ala	Thr	Leu	Asp	Asp	Asp	Lys	Pro
	450					455					460			
Tyr	Ser	Ile	Phe	Pro	Ile	Asp	Asn	Glu	Asp	Leu	Val	Tyr	Gly	Arg
465					470					475				480
Glu	Asp	Asn	Ile	Ile	Trp	Asp	Ala	Gln	Ala	Met	Pro	Arg	Leu	Leu
			485					490						495
Pro	Pro	Val	Leu	Thr	Leu	Asp	Pro	Asn	Asp	Glu	Asn	Leu	Ile	Leu
		500						505					510	
Ile	Pro	Asp	Glu	Lys	Glu	Glu	Ala	Thr	Ser	Asn	Ser	Pro	Ser	Lys
		515					520					525		
Ser	Lys	Lys	Glu	Ser	Ser	Leu	Lys	Lys	Ser	Arg	Ile	Leu	Leu	Gly
	530					535					540			
Thr	Gly	Val	Ile	Lys	Glu	Glu	Pro	Gln	Gln	Asn	Met	Ser	Gln	Pro
545					550					555				560
Val	Lys	Asp	Pro	Trp	Asn	Leu	Ser	Asn	Asp	Glu	Tyr	Tyr	Tyr	Pro
			565						570					575
Gln	Gln	Gly	Leu	Arg	Gly	Thr	Phe	Gly	Gly	Asn	Ile	Ile	Gln	His
		580						585					590	
Ile	Pro	Ala	Val	Glu	Leu	Arg	Gln	Pro	Phe	Phe	Pro	Thr	His	Met
		595					600					605		
Pro	Ile	Lys	Leu	Arg	Gln	Phe	His	Arg	Pro	Pro	Leu	Lys	Lys	Tyr
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Lys	His	Ile	Lys	Lys	Lys	Ala	Lys	Met	Arg	Glu	Gln	Glu	Arg	Gln
			645						650					655
Ser	Gly	Gly	Gly	Glu	Met	Phe	Phe	Met	Arg	Thr	Pro	Gln	Asp	Leu
		660						665					670	
Gly	Lys	Asp	Gly	Asp	Leu	Ile	Leu	Ala	Glu	Tyr	Ser	Glu	Glu	Asn
		675					680					685		
Pro	Leu	Met	Met	Gln	Val	Gly	Met	Ala	Thr	Lys	Ile	Lys	Asn	Tyr
	690					695					700			
Lys	Arg	Lys	Pro	Gly	Lys	Asp	Pro	Gly	Ala	Pro	Asp	Cys	Lys	Tyr
705					710					715				720
Glu	Thr	Val	Tyr	Cys	His	Thr	Ser	Pro	Phe	Leu	Gly	Ser	Leu	His
				725					730					735
Gly	Gln	Leu	Leu	Gln	Ala	Phe	Glu	Asn	Asn	Leu	Phe	Arg	Ala	Pro
		740						745					750	
Tyr	Leu	His	Lys	Met	Pro	Glu	Thr	Asp	Phe	Leu	Ile	Ile	Arg	Thr
		755					760					765		
Gln	Gly	Tyr	Tyr	Ile	Arg	Glu	Leu	Val	Asp	Ile	Phe	Val	Val	Gly
	770					775					780			
Gln	Cys	Pro	Leu	Phe	Glu	Val	Pro	Gly	Pro	Asn	Ser	Lys	Arg	Ala
785					790					795				800
Thr	His	Ile	Arg	Asp	Phe	Leu	Gln	Val	Phe	Ile	Tyr	Arg	Leu	Phe
			805						810					815
Lys	Ser	Lys	Asp	Arg	Pro	Arg	Arg	Ile	Arg	Met	Glu	Asp	Ile	Lys
			820					825					830	
Ala	Phe	Pro	Ser	His	Ser	Glu	Ser	Ser	Ile	Arg	Lys	Arg	Leu	Lys
		835					840					845		
Cys	Ala	Asp	Phe	Lys	Arg	Thr	Gly	Met	Asp	Ser	Asn	Trp	Trp	Val
	850					855					860			
Lys	Ser	Asp	Phe	Arg	Leu	Pro	Thr	Glu	Glu	Glu	Ile	Arg	Ala	Met
865					870					875				880

Ser Pro Glu Gln Cys Cys Ala Tyr Tyr Ser Met Ile Ala Ala Glu Gln
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 Arg Leu Lys Asp Ala Gly Tyr Gly Glu Lys Ser Phe Phe Ala Pro Glu
 900 905 910
 Glu Glu Asn Glu Glu Asp Phe Gln Met Lys Ile Asp Asp Glu Val Arg
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 Thr Ala Pro Trp Asn Thr Thr Arg Ala Phe Ile Ala Ala Met Lys Gly
 930 935 940
 Lys Cys Leu Leu Glu Val Thr Gly Val Ala Asp Pro Thr Gly Cys Gly
 945 950 955 960
 Glu Gly Phe Ser Tyr Val Lys Ile Pro Asn Lys Pro Thr Gln Gln Lys
 965 970 975
 Asp Asp Lys Glu Pro Gln Pro Val Lys Lys Thr Val Thr Gly Thr Asp
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 Ala Asp Leu Arg Arg Leu Ser Leu Lys Asn Ala Lys Gln Leu Leu Arg
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 Lys Phe Gly Val Pro Glu Glu Glu Ile Lys Lys Leu Ser Arg Trp Glu
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 Val Ile Asp Val Val Arg Thr Met Ser Thr Glu Gln Ala Arg Ser Gly
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 Glu His Gln Glu Arg Tyr Lys Glu Glu Cys Gln Arg Ile Phe Asp Leu
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 1075 1080 1085
 Ser Ser Ser Ala Glu Asp Ser Asp Phe Glu Glu Met Gly Lys Asn Ile
 1090 1095 1100
 Glu Asn Met Leu Gln Asn Lys Lys Thr Ser Ser Gln Leu Ser Arg Glu
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 Arg Glu Glu Gln Glu Arg Lys Glu Leu Gln Arg Met Leu Leu Ala Ala
 1125 1130 1135
 Gly Ser Ala Ala Ser Gly Asn Asn His Arg Asp Asp Asp Thr Ala Ser
 1140 1145 1150
 Val Thr Ser Leu Asn Ser Ser Ala Thr Gly Arg Cys Leu Lys Ile Tyr
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 Arg Thr Phe Arg Asp Glu Glu Gly Lys Glu Tyr Val Arg Cys Glu Thr
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 Lys Asp Glu Glu Phe Ile Arg Lys Phe Ala Leu Phe Asp Glu Gln His
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52

<210> 24
 <211> 38
 <212> DNA
 <213> C. albicans

<400> 24
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38

<210> 25
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 <400> 25
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 <400> 27
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 <210> 28
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 <210> 29
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41

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<213> "Artificial Sequence"

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<223> C. albicans

<400> 32

atagtttagc ggccgccttg tgacaagaag tgacac

36

BI
Conclude